Mississippi Department of Information Technology Services

Web Site Accessibility Overview and Guidelines

First Edition
(Revised by ITS, 10-23-03)

Revised by Mississippi Department of Information Technology Services 10/23/03
Original Document Developed by ASD of Alabama, Inc.
for the Mississippi Department of Information Technology Services

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1.0 *INTRODUCTION*

Open access is key for web site design. Web Masters and Web Developers need to be experienced in numerous techniques, styles, and standards for developing web sites that are accessible from multiple browsers and search engines across multiple platforms and network environments. The goal in web site design and development is to provide access for the maximum number of potential users as possible.

1.1 Explanation of Accessibility

Accessibility, in short, boils down to two major factors: 1) ease of use and 2) usable by everyone.

1.1.1 Ease of Use

Web pages should be easy to use. You shouldn't have to struggle to navigate through the pages. It is poor design if you get confused reading the text, or looking at the pictures. Similarly, it is frustrating when you cannot ascertain how to do something on the site. The site should be self-explanatory. Links on the web site should be clearly marked and understandable. One important aspect of a good web site is consistency; the web site should have pages that have a similar "look and feel". This type of consistency will allow visitors to your web site to flow seamlessly from one page to the next.

1.1.2 Usable by Everyone

An accessible site is usable by everyone visiting the site. It is that simple. The more people who can use it, the more people will be able to understand your message. Quick download of graphics, compatible animation, video and audio files that do not require special software to access, and providing a means for the hearing and visual impaired to benefit from the site on an equal basis with the non-impaired are all examples of making the site usable by everyone. The concept is to bring more users in. We don't want to turn anyone away.

1.2 Legal Responsibilities

Within the United States the legal issues surrounding building accessible web sites are becoming more and more prominent. State, federal and local governments are requiring that web sites and other electronic and information technology be accessible to people with disabilities. These obligations are covered under the Americans with Disabilities Act (ADA) and several other laws. A full overview of the situation can be obtained from the International Center for Disability Resources on the Internet web site (http://www.icdri.org/).

Cynthia Waddell and Mark Urban provide a good view of the situation in the United States on a Federal level. Their report, found at **http://www.icdri.org/CynthiaW/SL508overview.html**, provides an introduction to the issues of electronic and information technology accessibility for government policy makers at the state and local levels. They describe how "Amidst all the technical and legal maze of requirements, standards, and guidelines, it is important to keep one thing clear: accessibility provides opportunities for governments to provide services to the widest audience and the most employees, to the greatest extent possible, in ways that have been inconceivable until now. The benefits – economic, political, and ethical – far outweigh the cost of a well-planned, phased accessibility plan. The cost of being inaccessible – missing the boat on the coming age of thin clients, failing to serve your most needful citizens and employees, and legal liability – can be incalculable."

Waddell and Urban do not intend for this to be a complete discussion of the complex issues involved, nor do they intend this resource to be the "final word" regarding the changing regulatory and technological environment. Finally, this report should not be construed as legal advice or opinion on specific facts since particular legal questions can best be answered by seeking the advice of counsel. Information on the U.S. Access Board, the FCC, and the Department of Justice ruling on accessible web sites can also be found through this link.

Information on legal and policy issues involving state, local, and federal governments in the United States can be found at http://www.icdri.org/legal/us_legal_resources.htm. You can also look for the latest FCC press releases from the Disabilities Rights Office regarding accessibility and electronic and information technology, including web technology at http://www.fcc.gov/cib/dro/ - headlines.

1.3 Standards and Guidelines

1.3.1 ITS Standards and Guidelines

It is the desire of the Mississippi Department of Information Technology Services (ITS) that information and services found via the ITS website or any other state website developed by the ITS development team be accessible to people with disabilities. Therefore, after extensive research which included other state government web sites, Federal government web sites, the World Wide Web Consortium (W3C) recommendations, Bobby certification guidelines, and web sites found in the private sector, ITS developed the **ITS Web Page Accessibility Checklist** (found in Addendum A). This checklist is based on the Web Content Accessibility Guidelines of the W3C's Web Accessibility Initiative (WAI). [Note: the fact that this checklist was based on the W3C Accessibility Guidelines in no way implies endorsement by, or the consensus of, either W3C, members of the WAI Working Group, or ITS. Nor does it imply that the ITS checklist has been adopted, endorsed by, or in any way approved by WAI, W3C, or any component.]

ITS requires that all state web sites developed by the ITS development team shall meet the checkpoints on the ITS Web Page Accessibility Checklist and encourages other state agencies or entities do likewise for their own web sites. ITS further strives to meet as many of the ITS advanced checkpoints as appropriate for each individual page.

1.3.2 Level of Conformance

Each ITS developed web page/site will undergo a series of checklists and tests to provide appropriate quality assurance. The checklist, **ITS Web Page Accessibility Checklist** (found in Addendum A), will be completed for each web page created by ITS. In addition, extensive testing of various browsers and operating systems will be conducted. Included in these tests are multiple versions of Netscape and Internet Explorer, as well as Opera, Linx and IBM Home Page Reader. Each site will also be run through LIFT, a web site accessibility validation tool, in order to maintain accessible web sites.

ITS developed web pages will indicate ITS accessibility conformance by displaying the ITS Accessible image:

The image will be linked to the ITS Web Page Accessibility Guidelines found on the ITS web site. These guidelines include the **ITS Web Page Accessibility Checklist and other helpful information to assist the visitors with the creation of accessible web sites.**

1.3.3 W3C References

Six documents from W3C's Web Accessibility Initiative (WAI) have been included as reference material with this document (be sure to check W3C's website for the latest guidelines). These documents include:

1. Web Accessibility Initiative (WAI), http://w3.org/WAI
2. Web Content Accessibility Guidelines 1.0, http://www.w3.org/TR/WAI-WEBCONTENT/
3. Techniques for Web Content Accessibility Guidelines 1.0, http://www.w3.org/TR/WCAG10-TECHS/
4. Core Techniques for Web Content Accessibility Guidelines 1.0, http://www.w3.org/TR/WCAG10-CORE-TECHS/
5. HTML Techniques for Web Content Accessibility Guidelines 1.0, http://www.w3.org/TR/WCAG10-HTML-TECHS/
6. CSS Techniques for Web Content Accessibility Guidelines 1.0, http://www.w3.org/TR/WCAG10-CSS-TECHS/

2.0 *SITE CONSIDERATIONS*

When a web site is designed, there are two major considerations: site and page. The site considerations refer to a macroscopic view of the project. The considerations apply to the entire collection of web pages that comprise the web site. Considerations made at the site level create the foundation and the standard for the entire web site. Conversely, the page considerations refer to a microscopic view of the project. Although the goal is a consistent "look and feel" throughout the web site, each individual web page is unique. As such, every page will have specific page considerations unique to that page.

2.1 Ascertain What You Want to Do Before You Start Developing Your Site

The first thing is to decide what you want your site to do. You will want to meet with customers, clients, and potential users. Identify their needs and the capabilities they desire. Make a plan, decide how you want the overall web site and individual pages to look, and decide what you want to say. Draw the site out by hand or with your computer. There are many tools available that enable you to communicate effectively with easy-to-assemble drawings and diagrams. With these tools, you can build web site maps; create organizational charts and flowcharts; draw technical schematics and annotate CAD drawings. Plan your work about what you want to do first. Then work your plan.

2.2 ITS Development Life Cycle

The development process is broken into four phases. Each phase is concluded with a well-defined *milestone* – a point in time at which certain critical decisions must be made, and therefore key goals have been achieved. Please refer to the following diagrams.

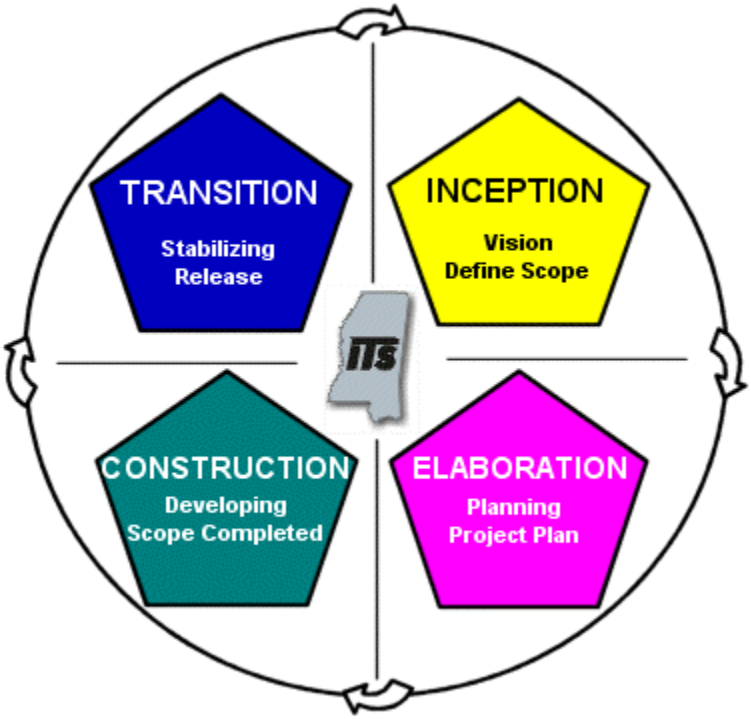

Figure 2.2: ITS Development Process Model – Cycles and Phases

Cycles and Phases

- **Inception**--The good idea: specifying the end-product vision and its business case, defining the scope of the project.
- **Elaboration**--Planning the necessary activities and required resources; specifying the features and designing the architecture.
- **Construction**--Building the product and evolving the vision, the architecture, and the plans until the product--the completed vision--is ready for transfer to its users' community.
- **Transition**--Making the transition from the product to its user's community, which includes: developing, delivering, training, supporting, and maintaining the product until the users are satisfied.

2.3 Make Your Home Page a Directory to Your Entire Site

Think of your home page or first page as the directory to the rest of your site. This will help organize your pages, and it will give people a place they can go to start over. The home page should have navigation links to all major sections of the web site. If your web site is designed to cater to different audiences, the home page can link to sub-sections of the web site that are targeted towards these groups. In addition, the home page should list contact information, and a place to make suggestions or report problems.

2.4 Look and Feel

In order to make things easier for everyone, it is a good idea to give your site a standard "look and feel." What this means is that things will be in the same place on every page. No one will have to search around looking for the link back to the home page. The navigation controls or links that help you move around the site will all be in the same place, no matter which page you are on. Navigation on the site will be much easier for everyone. There will be a consistent use of color, fonts.

2.5 Make Sure Everything Correlates

If you use a lot of graphics, sound or other types of media, you might think that making a page that is only text would be an answer for people who cannot use the things you have put on your site. This sounds good in principle, but it is not practical. A text-only page would require committing to creating two separate sites and keeping both web sites updated simultaneously.

Instead, think about making your text explain your use of these types of media. Then you only have to make one set of pages. People who do not or cannot use your pictures, sound, movies, or items will still understand what they are. Those who can use them will get a better understanding of the page. Make everything on your page work together. This way if one piece is missing or unusable the others will make up the difference. For example, if you use sound on your page, remember that many people do not have sound cards and cannot play the sound. So explain what the sound is doing or what it represents. That way the people who have come to your site will understand what you are doing.

2.6 Site Map

A site map giving a clear explanation of the site can be helpful to all. Visitors can use it to move around your site the way that is comfortable to them. It can simply be a listing of the pages and what they are. **ITS will provide a site map on any web site containing 5 or more pages.**

3.0 *PAGE CONSIDERATIONS*

3.1 Content Organization

The following are some suggestions on the organization of content or what you are actually putting on your web pages. Well-organized content is easier to read and understand. It helps make your message more understandable. Not everything applies to every situation. These are suggestions to help you. Certainly, you will find some of your own methods to accomplish the same things.

3.1.1 Place a Hyperlinked Table of Contents (TOC) at the Beginning of Page

If you are putting together a long document make sure you place an outline or table of contents at the beginning of the page. Link this table of contents to the headings in your page. This will help the people who come to your site move around on the page more easily.

3.1.2 Use Clearly Defined Headings and Sections to Divide Your Pages

When a web page contains information that covers a variety of topics or subjects, it is important to make each subject stand on its own. To help the reader see where each subject begins, a bold-faced heading or a section break (utilizing the horizontal rule tag,

<HR>) is critical. Headings and section breaks help to keep your content organized and less confusing.

3.1.3 Hyperlink Back to TOC at End of Each Section

Hyperlinking back to the TOC at the end of each section will give people a chance to go back to look at other things on your page without having to move through the entire page.

3.2 Background Colors and Images

3.2.1 Background Colors Can Be Confusing If They Do Not Contrast With Text

Using a gray or white background with the default text colors is a good way to insure that people can read your message. Using the default colors for text insures that there will be no confusion. Blue underlined text for hyperlinks, black for regular text, and so on. This will keep people from getting confused. For example, if you underline text, your readers may think it is supposed to be a hyperlink. This will cause confusion and will keep your message from being delivered effectively.

3.2.2 Background Images Are Confusing

Use background images only if they serve to clarify or enhance your site. Using background images can make it difficult to read the text on your site. Use them with great care.

3.3 Text Presentation and Color

3.3.1 Default Fonts

Rather than use the default font setting on text, either use CSS (Style Sheets) or use the <font face> tag to set several common fonts, always listing Arial first and Sans Serif last. This will maintain a consistency while making the web pages much easier to read.

Example:

<font face="Arial, Verdana, Helvetica, sans-serif" color="#000000" size="3">

3.3.2 Make Light Fonts and Backgrounds Contrast and Make Sure Colors Are Color Blind Friendly

The use of light colored fonts on light backgrounds makes it difficult for visitors to your site to see your text. Similarly, the use of dark colored fonts on dark backgrounds makes it difficult for visitors to see your text. Also make sure you colors are friendly to people who are color blind. More about this can be found at http://aware.hwg.org/tips/ under Color and Web Design.

3.4 Tables and Text In Columns

3.4.1 Linearizing Tables

By embedding tables inside the other and using single cell tables to hold content, most screen readers will be able to read the content of the tables. There is a good resource for finding out what order a page's elements will be read. It is called WAVE 2.01. It was developed by Pennsylvania's Initiative on Assistive Technology (PIAT). The tool is available online at **http://wave.webaim.org/.** This is a new evaluation tool and a tutorial is available.

3.4.2 Use Tables to Line Up Graphics

Tables are useful to line up graphics in a row. They can help keep things organized and readable.

3.5 Lists and How to Use Them

Lists produced by using the HTML <UL> (bulleted or unordered lists) and <OL>(ordered list) tags for unordered lists and ordered lists respectively, are difficult for screen readers to interpret. The following techniques can help to solve this problem:

3.5.1 Introduce the List

When your web page is going to use a list, you can introduce the list. For example, include the following introduction: “You can find the goals of ITS in the following list.” You can then place your list on the page following the introduction. This helps a person with a screen reader to understand that a list is on the page.

3.5.2 Numbered Lists

If you use actual numbers on the list instead of using the list tags (i.e. <OL>) many screen readers can read the numbers. See also **Bulleted Lists** below.

3.5.3 Bulleted or Unordered Lists

Make sure you introduce the list. For example, include the following introduction: “ITS is divided into the following divisions.” Then place them in a bulleted or unordered list. This lets the reader know you have a list of items on the page.

3.6 Horizontal Lines

Using the <HR> tag to produce a horizontal line or rule on the page helps to organize the page. **Use good judgment when placing a horizontal line on a web page, such as only using for broad topic changes.**

Many screen readers have a difficult time telling the user that the horizontal line is there. You can however use a title attribute to place text such as “New Topic” on the Horizontal Rule. The screen reader will read this and the user will know what is there. In this case the title tag describes the function not the appearance of the item

.

Example:

<HR **TITLE="New Topic">**

3.7 Descriptive Hyperlinks and Title Attributes

3.7.1 Make Sure the Links Tell Where You Are Going

Instead of saying Click here to go to http://www.mississippi.gov/, hyperlink words that clearly describe where you are going. **Use** the Title attribute to put a label on a link. This is also useful if you have a limited amount of space for the link text such as in a navigation bar. In many browsers a tool tip will be displayed giving the text of the title tag attribute.

Example:

<A HREF="http://www. MS.gov/" TITLE="The State of Mississippi's Official Web Site">Mississippi.gov</A>

This would link you to the state's web portal and it would pop up a tool tip in some of the later browsers. Many screen readers can also read it. The title tag can help everyone in this case.

Figure 3.1: When a visitor moves the mouse over the various sections, the browser pops up a tool tip describing the section. In this image, the mouse was held over the Featured Sites area of the site.

3.8 Images

3.8.1 Meaningful Use of Images Is Important.

Stop signs, arrows and the like illustrate, demonstrate, or initiate an action. Pictures should be related to the text that is near them.

3.8.2 Compliment and Illustrate the Text.

The images should add to the text and help the user understand the ideas in the text. If the user has trouble reading, they should be able to figure out what the text is saying from the images.

3.8.3 Describe Images In the Text.

Images should be clearly described in the text. It is sometimes useful to put a description of the function or use of the image rather than the image itself.

3.8.4 Animated and Flashing Graphics

Flashing and animated graphics can be distracting. Limit your use to places where they impart particular meaning.

3.8.5 ALT Tags

The ALT tag is primarily used with images to include a description of the image for text-based browsers, such as Lynx. Lynx is a fully featured *World Wide Web* (*WWW*) text browser for users on Unix, VMS, and other platforms running cursor-addressable, character-cell terminals or emulators. That includes vt100 terminals, other character-cell displays, and vt100 emulators such as Kermit or Procomm running on PCs or Macs. A Lynx representation of the ITS web site is shown below in Figure 3.3.

Always put a descriptive ALT tag on an image. Never put an image on your site that does not have an ALT tag. Your site will be easier to find if you use ALT tags. Search engines cannot read images; but they can read ALT tags. Search engines may also rank your site higher on a list when ALT tags are used. ALT tags are also required on images for code to be valid HTML 4.0 code. In many browsers, a tool tip will be displayed giving the text of the ALT tag attribute.

Example:

<IMG SRC=”magnolia_main.jpg” WIDTH=420 HEIGHT=273 **ALT="Magnolia"**>
This will place the image from magnolia_main.jpg on the page with an ALT tag that says **Magnolia**. ALT tags can be used on several different types of HTML codes; consult your HTML reference to find out which ones accept ALT Tags.

3.8.6 Descriptive Text

Describe the image or its function. Place a description of the image, or what the function of the image is, close to the image.

3.8.7 Images of Text Are Not Text

Remember that a picture of text is not text. Picture files include .GIF and .JPG file extensions. If you are unsure if text on your screen is really text, see if you can highlight it with your mouse, copy it, and paste it into a word processor, such as Notepad. If you cannot, it must have an ALT tag and a description for people who cannot or do not see it to understand what it is.

3.8.8 Image Sizes

Larger images have larger file sizes than smaller images. By keeping your images small, the image files will be smaller, and the web page will load faster. Remember that everyone is not using a computer connected to a Local Area Network (LAN) with a T-1 line to the Internet. Some people are still using 33.6 Kbps modems, and yes, even 14.4 and 28.8 Kbps modems, for Internet access. By remembering to keep images small, you will ensure that people with slow Internet connections will still be able to access your site in a reasonable amount of download time.

Web browsers only display images at 72 dots per inch (dpi). Therefore, there is no advantage to use images that have a resolution higher than 72 dpi. It will not improve

image quality and will only make the image files sizes larger. Always use the most compact, smallest, and compressed GIF or JPEG image file formats. **ITS strives to keep images to 350X350 pixels when possible *in order to minimize download time*.**

3.8.9 Page Placement

Images should be placed so they are close to the related text. The reader should not have to guess why an image appears on the web page.

3.9 Image Maps

3.9.1 Server Side Image Maps

Server side images maps are pictures that have been set up so that certain parts of the picture are really hyperlinks. The most classic example of this is a map of the United States. Depending on which state you click, the page will load information relative to that state.

Use an ALT Tag that points to text-based links that are the same as the Image map Create a set of text-based hyperlinks that are the same as the links on the image map. Put an ALT tag on the image map that says something like “See links below” or some other indication where text based links are located.

3.9.2 Client Side Image Maps

Client Side image maps are actually created in the HTML that is loaded on the user's computer. It is possible to put an ALT tag on each of the lines of code that sets the hyperlinks on the coordinates of the map. These ALT tags should accurately describe where the links are taking the user. This is especially important when you do not supply redundant text links for the map.

Example:

```
<MAP NAME=”Navigation”>
 <AREA HREF="state_agencies.html" COORDS="523,11,571,153" ALT="MS State
 Agencies" SHAPE="rect">
 <AREA HREF="ms_gov.html" COORDS ="441,10,517,95" ALT="MS Government"
 SHAPE ="rect">
 <AREA HREF ="ms_learning.html" COORDS ="350,9,435,93" ALT="Learning in MS"
 SHAPE ="rect">
 <AREA HREF ="ms_living.html" COORDS ="261,10,346,93" ALT="Living in MS"
 SHAPE ="rect">
 <AREA HREF ="ms_working.html" COORDS ="174,10,255,96" ALT="Working in
 MS" SHAPE ="rect">
 <AREA HREF ="ms_visit.html" COORDS ="94,9,168,94" ALT="Visiting MS" SHAPE
 ="rect">
 <AREA HREF ="ms_health.html" COORDS ="7,10,90,95" ALT="Health Care in MS"
 SHAPE ="rect">
</MAP>
```

3.10 Sound

3.10.1 Alternate Representation

When possible it is a good idea to present information in more than one way. A deaf person cannot hear and a blind person cannot see. So, it is important to provide

alternate ways for them to use your web page. The different way used to present video and sound is called alternate representation.

3.10.2 Visual Representation

Show a graphic representation of what the sound on your site is all about. For example, if it is music, then find a way to represent this in a picture or series of pictures. A good example of this can be seen at the site: A World Wide Web exclusive Original Leonardo Davinci Music. This site can be found at the following URL: http://library.thinkquest.org/13681/data/link3a.htm?tqskip1=1&tqtime=1023

3.10.3 Text Description

A short text description of what is going on is also helpful.

3.10.4 Text Transcript Where Appropriate.

If the sound is speech or dialogue, provide a link to a text transcript.

3.11 Movies

3.11.1 Alternate Representation

Similar to Alternate Representation for sound, there are alternate representations available for movies. These are primarily designed to assist the hearing impaired.

3.11.2 Close Captioning

Close captioning of a movie for those who are hearing impaired will help to get your message across. Figure 3.2 demonstrates the use of captions as part of a multi-media movie.

Figure 3.2: A multi-media movie file demonstrating the use of captions for the hearing impaired.

3.11.3 Sound track

Providing a sound track can make your movie more effective for everyone.

3.11.4 Text Transcription

Provide a text transcript of what is going on and what is being said.

Reference the WGBH web site at **http://ncam.wgbh.org/** to get explanations of how to do many of alternative representations discussed above.

3.12 Frames

Using frames is an issue of hot debate. Many people do not like them at all. They confuse some people, and some screen readers cannot read them in many cases. Older browsers, such as Netscape version 2 and Microsoft Internet Explorer version 2, do not support them.

ITS recommends that FRAMES not be used. In cases where FRAMES are felt to be needed, please document the reason(s) needed and email to Accessibility Team Leader and Q.A.

If you are going to use frames, each FRAME must be named and an option to move out of frames must be provided. It is preferred that an alternative web site is not used. The NOFRAMES tag allows you to control when a frames version of the web site is displayed. You should also provide a title attribute on each frame that describes the frame and what is in it. An example appears below:

```
<FRAMESET>
   <FRAME TITLE="First Frame" NAME="First">
</FRAMESET>
```

Even with this attribute, the frame may not be readable by some screen readers so frames are best avoided, if possible. Otherwise, be sure to provide a NOFRAMES version.

3.13 Forms

3.13.1 Positioning of the Label

The easiest way to keep a form as accessible as possible is to use text input fields that have their labels positioned to the immediate left of the text field. This allows the user with a screen reader to enter text in the fields. Make sure all labels for every type of field are positioned in the same place in relation to the field.

Test the tab order and if it is not working properly, use the tabindex attribute to determine the tab order of fields. This will help everyone but especially those who are trying to navigate with keystrokes.

Example:
<INPUT TYPE="text" ID="Headline" NAME="Headline" SIZE=50 **TABINDEX=”1”**>

3.13.2 Provide Alternative Means to Contact Your Organization.

The following list provides some suggestions:

1. Phone number
2. E-mail address
3. Fax number
4. Mailing address

3.14 Browser Specific Presentation Is Unacceptable

Below are some reasons to write pages that are not specific to one browser or another.

- You should write for the largest audience possible and not exclude any group of people.
- Users may be using a library computer that is text only. See Lynx representation of the ITS web Site shown in Figure 3.3.

- Users may have only older equipment or software that cannot take advantage of the latest and greatest tricks on a site.
- 30% of the people on the web run with images shut down.
- People outside of developed countries may not have access to advanced technology.

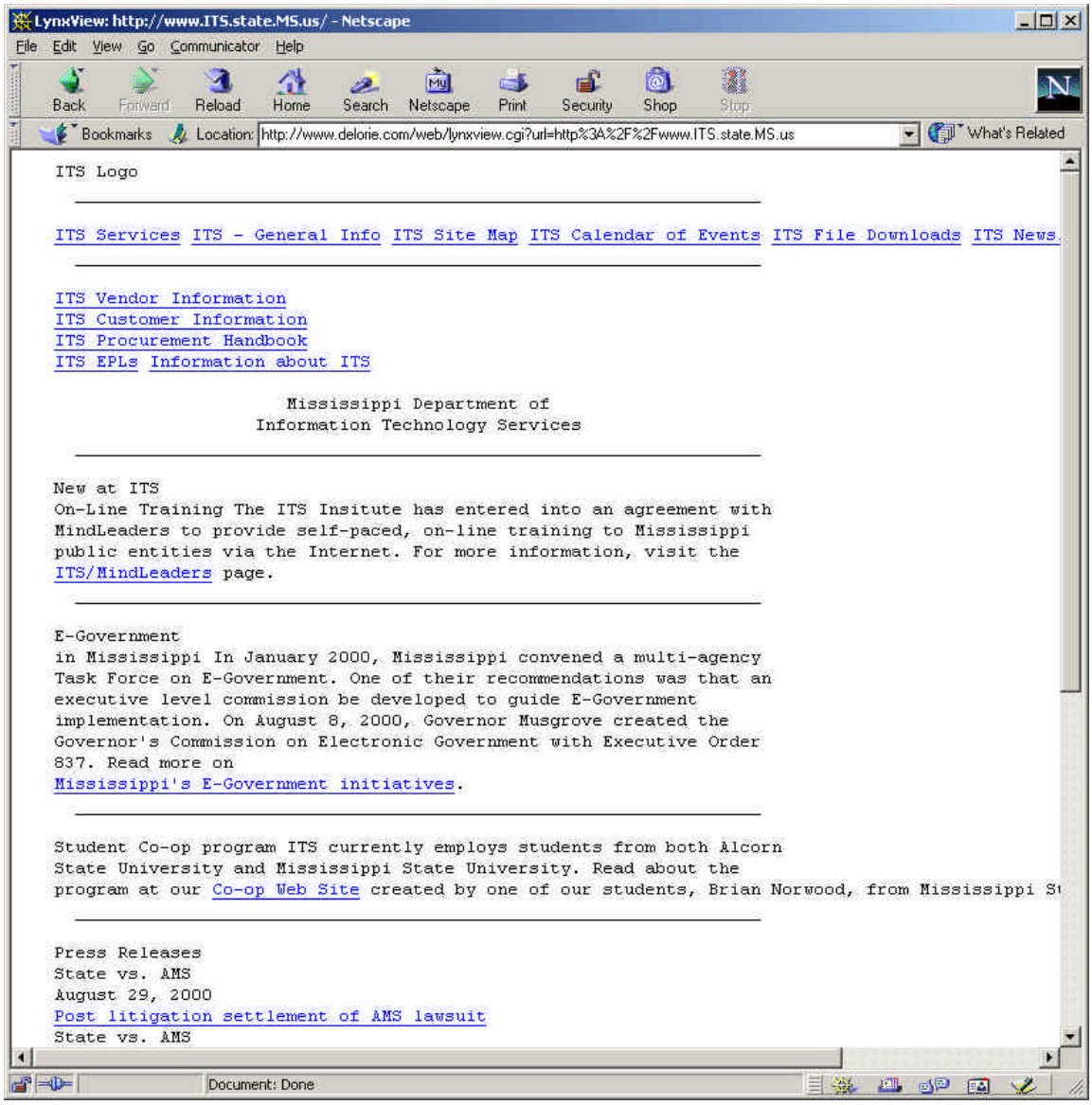

Figure 3.3: This screen demonstrates the Mississippi Department of Information Technology Services web site when viewed through a text-only browser such as Lynx.

3.15 Applets and Scripts

Make sure that Applets and scripts are accessible to people using assistive technology. Applets and Scripts are small programs (such as Java applets) that add customized functionality to a web page. An applet might provide scrolling text across the screen, or

advanced navigation features. If these applets are not accessible to everyone, present an alternative to the script that the visitor can use.

3.16 If Nothing Else Works

If nothing else works after you have made your best effort to make the web site accessible, present an alternative web site. Make sure it is kept updated with the main site and that it presents the same information. **THIS IS ONLY AN OPTION IF EVERYTHING ELSE HAS FAILED AND IT IS IMPERATIVE THAT THE INACCESSIBLE ITEMS BE PUBLISHED. If this is the case, please discuss with the ITS Accessibility team leader and your QA first.**

With today's techniques and browsers this should be a rare occurrence. It is not desirable to do this as it creates more work when the site needs to be updated. It is preferable to have one site that is usable by all.

Another option is to use dynamic content powered by a relational database. In this case, a user attribute can be set for various accessibility levels: severely limited access, limited access, basic, advanced, or full multi-media. For a person with severe disabilities (severely limited access), the dynamic content can be automatically formatted to display only the simplest and most basic features of the web site.

3.17 Important Things to Remember

The technology of the web and the ways it is accessed are changing. People may be having your site read to them in a car, or be in a place where sound is not possible or appropriate. The way the site is used or viewed will not necessarily be the way you think it will be used. Strive to make your information available in the way the user wants to get it, not the way you want them to get it! Remember, many people in this world use the web. They do not all access the web in the same way you do. They may not speak the same language you do. Also, they may not have all the advantages of the latest technology. If you can help them to understand what you are trying to convey on your web site, then we will have reached a much larger and more diverse audience.

ADDENDUM A

ITS Web Page Accessibility Checklist

It is the desire of the Mississippi Department of Information Technology Services (ITS) that information and services found via the ITS web site or any other state web site developed by ITS personnel be accessible to people with disabilities. Therefore, after extensive research which included other state government web sites, federal government web sites, the World Wide Web Consortium (W3C) recommendations, Bobby certification guidelines, and web sites found in the private sector, ITS developed the ITS Web Page Accessibility Checklist. The ITS Web Page Accessibility Checklist is a checklist designed to help determine that web sites created by ITS are in compliance with the ITS Accessibility Guidelines.

This checklist is based on the research and work of a committee composed of members of the ITS WALL team in 2000-2001, completed in 2003 by the ITS Accessibility Team Leader. Many sources of information were used in the creation of this material, including the Web Content Accessibility Guidelines of the W3C's Web Accessibility Initiative (WAI). This checklist is based on the Web Content Accessibility Guidelines of the W3C's Web Accessibility Initiative (CAI) and includes all of the W3C Priority 1 as well as many of the Priority 2 and 3 checkpoints. [Note: the fact that this checklist was based on the W3C Accessibility Guidelines in no way implies endorsement by, or the consensus of, either W3C, members of the WAI Working Group, or ITS. Nor does it imply that the ITS checklist has been adopted, endorsed by, or in any way approved by the WAI, W3C, or any component.]

ITS requires that all state web sites developed by ITS shall meet the required checkpoints on the ITS Web Page Accessibility Checklist (which can be found on the ITS web site by clicking the ITS Accessible Website image) and encourages other state agencies or entities to do likewise for their own web sites. ITS further strives to meet as many of the ITS advanced checkpoints as appropriate for each individual page.

ITS Web Page Accessibility Checklist - DETAIL

ITS WEB DESIGN REQUIREMENTS	Yes	No	N/A
In General	**Yes**	**No**	**N/A**
A. Do all pages contained in the site have a consistent look and feel? Do they flow?			
B. Have all pages been tested in the most common resolutions (800X600, and 1024X768)? *These tests will be conducted using the browser's default settings*.			
C. Have all pages in the web site been tested on at least 5 browsers (Netscape, IE, Opera, Lynx, and IBM Home Page Reader)?			
D. Have all images within the site been tested for download time? Keep in mind the download time for users dialing in at 28.8 baud rate.			
E. Do all images contained within the web site have ALT tags identifying the images for visitors using a screen reader?			
F. Are each of the links contained in the web site descriptive? Do all links contained in the website have TITLE tags identifying the links for visitors using a screen reader? Do not use "Click here" type links where the link is not descriptive.			

ITS Web Page Accessibility Checklist - DETAIL

ITS WEB DESIGN REQUIREMENTS	Yes	No	N/A
G. Do all pages within the web site make sense and are they all usable with graphics, Java, Java Script, & Cascading Style Sheets turned off?			
H. Have blinking or flickering elements been used within the web site?			
I. ITS prefers that FRAMES not be used on any ITS developed web sites. Have frames been used? Why? (Email Accessibility Team Leader and QA reasons for using frames). If Frames were used, has each FRAME been named?			
J. If Java Script has been used within this site, has another means of accessing this information been provided?			
K. Have CSS (Style Sheets) or the FONT FAMILY tag been used to provide two to three choices of fonts? (Example: <font face="arial, helvetica, sans-serif"> or {font-family: "arial, helvetica, sans-serif ";} in CSS). * ***Does not apply to Lotus Notes, as it either not needed in Notes or Notes is not capable of this function.**			
L. Has clear navigation been provided throughout the site? Does every page provide a link back to the home page?			
M. Has a site map been provided for web sites with 5 or more pages?			
N. Has the main page been named index.html? * ***Does not apply to Lotus Notes, as it either not needed in Notes or Notes is not capable of this function.**			
O. Does every page contain a title tag?			
P. Are all pages simple and to the point? Do most pages within the site contain pages with 2 screens or less of information?			
Q. Has every web page been spell checked? EXCEPTION: DYNAMIC UPDATES.			
R. Are colors used within the web site complementary of one another and do they provide proper contrast?			
S. Has color been relied on in order to convey information anywhere in the site? If so, this is to be corrected for those who are not able to see the color.			
T. Are all “maps” provided within the web site client-side rather than server-side? If not, email Accessibility Team Leader and QA reasons for going server-side.			
U. If an additional page is provided for accessibility purposes, has this been clearly defined on the site?			
V. Have links been provided for every plug-in needed within the web site? Have instructions on how to download the plug-in(s) been included?			
W. Has the Portal Content Manager been notified of this site in order to add a link on the Portal?			

ITS Web Page Accessibility Checklist - DETAIL

ITS WEB DESIGN REQUIREMENTS	Yes	No	N/A
X. Have requests been made to the proper agencies for a link to be added for this site?			
Y. Has proper permission been requested and received for using non-ITS or non-agency material?			
Z. Has the Copyright image/statement and disclaimer been included on each page in the web site?			
AA. Has file size been displayed for each file presented for download?			
BB. Has a means of skipping links (at top of page) on sites with numerous navigation buttons/links been provided?			
REFERS TO THE W3C WEBSITE AND FOLLOWS THE W3C NUMBERING SEQUENCE			
	Yes	**No**	**N/A**
1.1 Provide a text equivalent for every non-text element (e.g., via "alt", "longdesc", or in element content). This includes: images, graphical representations of text (including symbols), image map regions, animations (e.g., animated GIFs), applets and programmatic objects, ASCII art, frames, scripts, images used as list bullets, spacers, graphical buttons, sounds (played with or without user interaction), stand-alone audio files, audio tracks of video, and video. ** **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-text-equivalent)** **** Lotus Notes does not allow defining an ALT tag for a server inserted blank.gif**			
2.1 Ensure that all information conveyed with color is also available without color, for example from context or markup. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-color-convey)**			
4.1 Clearly identify changes in the natural language of a document's text and any text equivalents (e.g., captions). **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-identify-changes)**			
6.1 Organize documents so they may be read without style sheets. For example, when an HTML document is rendered without associated style sheets, it must still be possible to read the document. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-order-style-sheets)**			
6.2 Ensure that equivalents for dynamic content are updated when the dynamic content changes. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-dynamic-source)**			
7.1 Until user agents allow users to control flickering, avoid causing the screen to flicker. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-avoid-flicker)**			
14.1 Use the clearest and simplest language appropriate for a site's content. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-simple-and-straightforward)**			

When using images and image maps	Yes	No	N/A
1.2 Provide redundant text links for each active region of a server-side image map. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-redundant-server-links)**			
9.1 Provide client-side image maps instead of server-side image maps except where the regions cannot be defined with an available geometric shape. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-client-side-maps)**			
1.5 Until user agents render text equivalents for client-side image map links, provide redundant text links for each active region of a client-side image map. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-redundant-client-links)**			
When using tables	**Yes**	**No**	**N/A**
5.1 For data tables, identify row and column headers. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-table-headers)**			
5.2 For data tables that have two or more logical levels of row or column headers, use markup to associate data cells and header cells. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-table-structure)**			
When using frames	**Yes**	**No**	**N/A**
12.1 Title each frame to facilitate frame identification and navigation. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-frame-titles)**			
When using applets and scripts	**Yes**	**No**	**N/A**
6.3 Ensure that pages are usable when scripts, applets, or other programmatic objects are turned off or not supported. If this is not possible, provide equivalent information on an alternative accessible page. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-scripts)**			
When using multimedia	**Yes**	**No**	**N/A**
1.3 Until user agents can automatically read aloud the text equivalent of a visual track, provide an auditory description of the important information of the visual track of a multimedia presentation. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-auditory-descriptions)**			
1.4 For any time-based multimedia presentation (e.g., a movie or animation), synchronize equivalent alternatives (e.g., captions or auditory descriptions of the visual track) with the presentation. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-synchronize-equivalents)**			
And if all else fails	**Yes**	**No**	**N/A**
11.4 If, after best efforts, you cannot create an accessible page, provide a link to an alternative page that uses W3C technologies, is accessible, has equivalent information (or functionality), and is updated as often as the inaccessible (original) page. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-alt-pages)**			

General - ITS Advanced Checklist	Yes	No	N/A
2.2 Ensure that foreground and background color combinations provide sufficient contrast when viewed by someone having color deficits or when viewed on a black and white screen. [Priority 2 for images, Priority 3 for text]. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-color-contrast)**			
3.1 When an appropriate markup language exists, use markup rather than images to convey information. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-use-markup)**			
3.2 Create documents that validate to published formal grammars. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-identify-grammar)**			
3.4 Use relative rather than absolute units in markup language attribute values and style sheet property values. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-relative-units)**			
3.5 Use header elements to convey document structure and use them according to specification. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-logical-headings)**			
3.6 Mark up lists and list items properly. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-list-structure)**			
3.7 Mark up quotations. Do not use quotation markup for formatting effects such as indentation. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-quotes)**			
6.5 Ensure that dynamic content is accessible or provide an alternative presentation or page. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-fallback-page)**			
7.2 Until user agents allow users to control blinking, avoid causing content to blink (i.e., change presentation at a regular rate, such as turning on and off). **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-avoid-blinking)**			
7.4 Until user agents provide the ability to stop the refresh, do not create periodically auto-refreshing pages. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-no-periodic-refresh)**			
7.5 Until user agents provide the ability to stop auto-redirect, do not use markup to redirect pages automatically. Instead, configure the server to perform redirects. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-no-auto-forward)**			
10.1 Until user agents allow users to turn off spawned windows, do not cause pop-ups or other windows to appear and do not change the current window without informing the user. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-avoid-pop-ups)**			
12.3 Divide large blocks of information into more manageable groups where natural and appropriate. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-group-information)**			

13.1 Clearly identify the target of each link. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-meaningful-links)**			
13.2 Provide metadata to add semantic information to pages and sites. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-use-metadata)**			
13.3 Provide information about the general layout of a site (e.g., a site map or table of contents). **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-site-description)**			
13.4 Use navigation mechanisms in a consistent manner. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-clear-nav-mechanism)**			
When using tables - ITS Advanced Checklist	**Yes**	**No**	**N/A**
5.3 Do not use tables for layout unless the table makes sense when linearized. Otherwise, if the table does not make sense, provide an alternative equivalent (which may be a linearized version). **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-avoid-table-for-layout)**			
5.4 If a table is used for layout, do not use any structural markup for the purpose of visual formatting. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-table-layout)**			
When using frames - ITS Advanced Checklist	**Yes**	**No**	**N/A**
12.2 Describe the purpose of frames and how frames relate to each other if it is not obvious by frame titles alone. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-frame-longdesc)**			
When using forms - ITS Advanced Checklist	**Yes**	**No**	**N/A**
10.2 Until user agents support explicit associations between labels and form controls, for all form controls with implicitly associated labels, ensure that the label is properly positioned. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-unassociated-labels)**			
12.4 Associate labels explicitly with their controls. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-associate-labels)**			
When using applets and scripts - ITS Advanced Checklist	**Yes**	**No**	**N/A**
6.4 For scripts and applets, ensure that event handlers are input device-independent. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-keyboard-operable-scripts)**			
7.3 Until user agents allow users to freeze moving content, avoid movement in pages. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-avoid-movement)**			
8.1 Make programmatic elements such as scripts and applets directly accessible or compatible with assistive technologies [Priority 1 if functionality is important and not presented elsewhere, otherwise Priority 2.] **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-directly-accessible)**			
9.2 Ensure that any element that has its own interface can be operated in a device-independent manner. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-keyboard-operable)**			

9.3 For scripts, specify logical event handlers rather than device-dependent event handlers. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-device-independent-events)**			
In General - ITS Advanced Checklist	**Yes**	**No**	**N/A**
4.2 Specify the expansion of each abbreviation or acronym in a document where it first occurs. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-expand-abbr)**			
4.3 Identify the primary natural language of a document. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-identify-lang)**			
9.4 Create a logical tab order through links, form controls, and objects. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-tab-order)**			
10.5 Until user agents (including assistive technologies) render adjacent links distinctly, include non-link, printable characters (surrounded by spaces) between adjacent links. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-divide-links)**			
13.5 Provide navigation bars to highlight and give access to the navigation mechanism. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-nav-bar)**			
13.6 Group related links, identify the group (for user agents), and, until user agents do so, provide a way to bypass the group. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-group-links)**			
13.8 Place distinguishing information at the beginning of headings, paragraphs, lists, etc. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-front-loading)**			
13.10 Provide a means to skip over multi-line ASCII art. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-skip-over-ascii)**			
14.2 Supplement text with graphic or auditory presentations where they will facilitate comprehension of the page. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-icons)**			
14.3 Create a style of presentation that is consistent across pages. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-consistent-style)**			
When using tables - ITS Advanced Checklist	**Yes**	**No**	**N/A**
5.5 Provide summaries for tables. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-table-summaries)**			
5.6 Provide abbreviations for header labels. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-abbreviate-labels)**			
10.3 Until user agents (including assistive technologies) render side-by-side text correctly, provide a linear text alternative (on the current page or some other) for all tables that lay out text in parallel, word-wrapped columns. **(http://www.w3.org/TR/WAI-WEBCONTENT/#tech-linear-tables)**			

ADDENDUM B

Section 508

The following information was extracted directly from the final ruling of the Section 508 mandate (http://www.usdoj.gov/crt/508/508law.html) as released by the Federal Access Board on December 20, 2000:

PL 105-220, 1998 HR 1385
PL 105-220, enacted on August 7, 1998, 112 Stat 936
codified as: Section 504 of the Rehabilitation Act, 29 U.S.C. § 794d

WORKFORCE INVESTMENT ACT OF 1998

SEC. 508. ELECTRONIC AND INFORMATION TECHNOLOGY.

(a) REQUIREMENTS FOR FEDERAL DEPARTMENTS AND AGENCIES.--

(1) ACCESSIBILITY.--

(A) DEVELOPMENT, PROCUREMENT, MAINTENANCE, OR USE OF ELECTRONIC AND INFORMATION TECHNOLOGY.--When developing, procuring, maintaining, or using electronic and information technology, each Federal department or agency, including the United States Postal Service, shall ensure, unless an undue burden would be imposed on the department or agency, that the electronic and information technology allows, regardless of the type of medium of the technology--

(i) individuals with disabilities who are Federal employees to have access to and use of information and data that is comparable to the access to and use of the information and data by Federal employees who are not individuals with disabilities; and

(ii) individuals with disabilities who are members of the public seeking information or services from a Federal department or agency to have access to and use of information and data that is comparable to the access to and use of the information and data by such members of the public who are not individuals with disabilities.

(B) ALTERNATIVE MEANS EFFORTS.--When development, procurement, maintenance, or use of electronic and information technology that meets the standards published by the Access Board under paragraph (2) would impose an undue burden, the Federal department or agency shall provide individuals with disabilities covered by paragraph (1) with the information and data involved by an alternative means of access that allows the individual to use the information and data.

(2) ELECTRONIC AND INFORMATION TECHNOLOGY STANDARDS.--

(A) IN GENERAL.--Not later than 18 months after the date of enactment of the Rehabilitation Act Amendments of 1998, the Architectural and Transportation Barriers Compliance Board (referred to in this section as the 'Access Board'), after consultation with the Secretary of Education, the Administrator of General Services, the Secretary of Commerce, the Chairman of the Federal Communications Commission, the Secretary of Defense, and the head of any other Federal department or agency that the Access Board determines to be appropriate, including consultation on relevant research findings, and after consultation with the electronic and information technology industry and appropriate public or nonprofit agencies or organizations, including organizations representing individuals with disabilities, shall issue and publish standards setting forth--

(i) for purposes of this section, a definition of electronic and information technology that is consistent with the definition of information technology specified in section 5002(3) of the Clinger-Cohen Act of 1996 (40 U.S.C. 1401(3)); and

(ii) the technical and functional performance criteria necessary to implement the requirements set forth in paragraph (1).

(B) REVIEW AND AMENDMENT.--The Access Board shall periodically review and, as appropriate, amend the standards required under subparagraph (A) to reflect technological advances or changes in electronic and information technology.

(3) INCORPORATION OF STANDARDS.--Not later than 6 months after the Access Board publishes the standards required under paragraph (2), the Federal Acquisition Regulatory Council shall revise the Federal Acquisition Regulation and each Federal department or agency shall revise the Federal procurement policies and directives under the control of the department or agency to incorporate those standards. Not later than 6 months after the Access Board revises any standards required under paragraph (2), the Council shall revise the Federal Acquisition Regulation and each appropriate Federal department or agency shall revise the procurement policies and directives, as necessary, to incorporate the revisions.

(4) ACQUISITION PLANNING.--In the event that a Federal department or agency determines that compliance with the standards issued by the Access Board under paragraph (2) relating to procurement imposes an undue burden, the documentation by the department or agency supporting the procurement shall explain why compliance creates an undue burden.

(5) EXEMPTION FOR NATIONAL SECURITY SYSTEMS.--This section shall not apply to national security systems, as that term is defined in section 5142 of the Clinger-Cohen Act of 1996 (40 U.S.C. 1452).

(6) CONSTRUCTION.--

(A) EQUIPMENT.--In a case in which the Federal Government provides access to the public to information or data through electronic and information technology, nothing in this section shall be construed to require a Federal department or agency--

(i) to make equipment owned by the Federal Government available for access and use by individuals with disabilities covered by paragraph (1) at a location other than that where the electronic and information technology is provided to the public; or

(ii) to purchase equipment for access and use by individuals with disabilities covered by paragraph (1) at a location other than that where the electronic and information technology is provided to the public.

(B) SOFTWARE AND PERIPHERAL DEVICES.--Except as required to comply with standards issued by the Access Board under paragraph (2), nothing in paragraph (1) requires the installation of specific accessibility-related software or the attachment of a specific accessibility-related peripheral device at a workstation of a Federal employee who is not an individual with a disability.

(b) TECHNICAL ASSISTANCE.--The Administrator of General Services and the Access Board shall provide technical assistance to individuals and Federal departments and agencies concerning the requirements of this section.

(c) AGENCY EVALUATIONS.--Not later than 6 months after the date of enactment of the Rehabilitation Act Amendments of 1998, the head of each Federal department or agency shall evaluate the extent to which the electronic and information technology of the department or agency is accessible to and usable by individuals with disabilities described in subsection (a)(1), compared to the access to and use of the

technology by individuals described in such subsection who are not individuals with disabilities, and submit a report containing the evaluation to the Attorney General.

(d) REPORTS.--

(1) INTERIM REPORT.--Not later than 18 months after the date of enactment of the Rehabilitation Act Amendments of 1998, the Attorney General shall prepare and submit to the President a report containing information on and recommendations regarding the extent to which the electronic and information technology of the Federal Government is accessible to and usable by individuals with disabilities described in subsection (a)(1).

(2) BIENNIAL REPORTS.--Not later than 3 years after the date of enactment of the Rehabilitation Act Amendments of 1998, and every 2 years thereafter, the Attorney General shall prepare and submit to the President and Congress a report containing information on and recommendations regarding the state of Federal department and agency compliance with the requirements of this section, including actions regarding individual complaints under subsection (f).

(e) COOPERATION.--Each head of a Federal department or agency (including the Access Board, the Equal Employment Opportunity Commission, and the General Services Administration) shall provide to the Attorney General such information as the Attorney General determines is necessary to conduct the evaluations under subsection (c) and prepare the reports under subsection (d).

(f) ENFORCEMENT.--

(1) GENERAL.--

(A) COMPLAINTS.--Effective 2 years after the date of enactment of the Rehabilitation Act Amendments of 1998, any individual with a disability may file a complaint alleging that a Federal department or agency fails to comply with subsection (a)(1) in providing electronic and information technology.

(B) APPLICATION.--This subsection shall apply only to electronic and information technology that is procured by a Federal department or agency not less than 2 years after the date of enactment of the Rehabilitation Act Amendments of 1998.

(2) ADMINISTRATIVE COMPLAINTS.--Complaints filed under paragraph (1) shall be filed with the Federal department or agency alleged to be in noncompliance. The Federal department or agency receiving the complaint shall apply the complaint procedures established to implement section 504 for resolving allegations of discrimination in a federally conducted program or activity.

(3) CIVIL ACTIONS.--The remedies, procedures, and rights set forth in sections 505(a)(2) and 505(b) shall be the remedies, procedures, and rights available to any individual with a disability filing a complaint under paragraph (1).

(g) APPLICATION TO OTHER FEDERAL LAWS.--This section shall not be construed to limit any right, remedy, or procedure otherwise available under any provision of Federal law (including sections 501 through 505) that provides greater or equal protection for the rights of individuals with disabilities than this section.